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Application no : 10/042,433 | Filing date : Jan 10th 2002. | Inventor : Gopinath Baddepudi.

US Patent office, PO box 1450,
Alexandra, Virginia-22313-1450.

For the attention of Mr. Boyer Ashley, / Mr. Druan, Thomas J.

Dear Sir,

Office communication dated May 23rd from Mr. Boyer Ashley,

Office action summary on my Patent application referred above.

I have studied the remarks on different aspects of my application. I am giving below a detailed reply to all the points raised, for your scrutiny and consideration.

Information disclosure Statement. Item 1 on page 2.

It is true I have not submitted a separate list of all patents relevant to my Invention to explain prior art. This is due to the limited resources available to me here to conduct a search on prior art. This may be also due to the following.

I filed my Provisional application on June 25th 2001 based on, USPTO on line guide dated Dec 16th 2000.

I have not referred to the latest rules while submitting my regular patent application on Jan 10th 2002.

I thank you for providing me the list in form PTO -892 and copies of the patent details. This will be very useful to me in describing how my Invention is different from the prior art and the details of the improvements in my Invention. I have detailed this in page three of this letter and also in the amended CLAIMS.

Claims Rejection.

Item numbers 2 and 3 on page 2 of your Office Action Summary .35 U.S.C 112

I have noted the deficiencies with respect to the way in which the claims have been written. I am redrafting all the Claims and enclosing them as an amendment. It is clear that I did not project the invention in the manner required. Now I will define several distinctive aspects of my invention in the revised claims based on the amendment to device B which I submitted in Jan/February 2003 and two more amendments proposed now to incorporate the features of the device B amended in February 2003 in two devices which also work on ,Inclined cutting action. The details of the amendments are given in a separate letter.

I request you to reconsider the rejection of the claims on the basis of my present reply.

Items 4,5 and 6, page 4 of your Office Action Summary. 35 U.S.C 102.

My claims have been rejected on the grounds that they were anticipated by US 4.383,365 to Metzigian.. I will give below my comments on the points raised , regarding Metzigian's invention. I will attempt to establish that there is nothing common between the device in US 4,383,365 and my invention except the inclined cutting action. I would also like to present later, details about the distinctive features of my invention as described in amended device B and shown in figures 22,23 of sheet 11.

Points raised by you in item 5 on page 4 of action summary.

The invention has assembly of six knives and a board with thin walled platform.

Part no.30,34,41 are thin wires meant to slice eggs, butter, soft cheese etc and cannot be compared to knives meant to cut vegetables. **The specification uses the term blade member for the frame in which the wires are mounted. This usage is misleading when in reality there are no blades.**

I have tried cutting vegetables on Egg/butter slicers. The wires distort and break. The thin walled platform has a depressed pocket for keeping the egg. Straight vegetables cannot be kept in the pocket. The inventor has claimed only egg and butter slicing capabilities and not vegetables.

Each knife cuts independently.

There are no knives and no vegetable cutting capacity.

The knives do not touch the board.

The wires do touch the slot bottom of support 12 at the edge near the fulcrum and the far edge as there is no other surface higher than this to stop the wires.

The knives use a lever action to cut.

This is true. I believe I can also use lever action without infringing other's patents.

The assembly can be used with the knives at the bottom.

If the device is turned upside down, the wire frame will rest in an inclined fashion on the table as it is hinged to the base. The egg support will be on the top as it is mounted on the base. The egg cannot be supported well in this mode as they have to be supported on wires.

Now I will present distinctive features of my Invention as drawn in sheet 11 figures 22,23 and described in amended device B replacing the earlier device B on page 9,10 of the original Specification. This amendment was sent by me on 30th Jan 2003 and received by you some time later. This is to establish that my invention has not been disclosed by Metzigian.

COPY OF AMENDED SPECIFICATION AND FIG. NOS. 22, 23 ENCLOSED.
The device is compact and consists of the guide frame with slots (part 6,7,8,10) and the knives with handles, part 1 and 3. The guide frame has seven laminate guides part 6 assembled together with 2mm spacers between them, using bolts. The 2mm spacers create six 2mm wide slots in the frame for the knives to move. The six knives are assembled in the guide frame using fulcrum bolt part 4 as shown in fig.22. They move in slots between adjacent guides part 6. The cutting is done by placing the vegetables in enclosure 5 and pressing all the knives together on them using the knife handles 3.

The outer 4 knives are connected together and the center 2 knives are connected together.

The knives part 1 fig 22 are mounted directly on the guide frame part 6,7,8,10. There is no separate knife frame and no lugs on the base to support the knife frame. This makes the device compact and easier to manufacture.

Other distinctive features are :

- Because of the direct mounting of knives on the guide frame, the distance between the vegetables and the fulcrum is reduced, increasing the Mechanical advantage for the same handle length.
- Another important advantage/ distinctive feature of mounting knives without a knife frame is the ability of the knives to pass through the vegetable and go below them to free the cut pieces from between the knives. If there is a frame, this becomes impractical as the frame

will touch the uncut portion of the vegetable and stop further knife movement. Assuming that 100 mm long Okras are being cut, and the space between the six knives is 50 mm, in the first cut only half the length of Okras will be cut, the remaining 50 mm length remaining beyond the knives. The knife frame will touch this extra length , during cutting ,causing a problem. This is solved by my invention.

- The guide frame is so designed that the enclosure cum platform for the vegetables part 5, fig22 is right next to the knives in vertical position and is closed on three sides (fig 22), while the fourth side is covered by the knives. This results in further reduction of the distance between the fulcrum and the vegetables and thus increasing the mechanical advantage.
- The shape of the guide frame as shown in fig 22, ensures guiding the knives through out the cutting stroke so that they enter the slot below the vegetables smoothly without going out of alignment.
- The knives clear the vegetables and enter slots below the platform.This results in a clean cut and all the cut pieces are disengaged from the knives and ready for clearing.
- The closing of the enclosure 5 of the guide frame on three sides also results in the reduction of the “length of the knives which are under load due to the cutting action” as the knives beyond the enclosure are supported on the sides by the guides part 6. This is a big advantage as the side deflection of the knives is proportional to the cube of the length under load. By reducing the effective length, the bending comes down by a large extent. For example if the length is reduced by half, the bending is reduced by eight times.
- Closing of enclosure on three sides prevents the vegetables from sliding when knives press on them in an inclined fashion. The enclosure also makes them remain in place without the need to hold them. This makes it very safe as the hand need not be close to the knives as happens with normal cutting process.
- As a result of the above design features it can slice a 50 mm thick potato, cut all the slices into fingers, and dice all the fingers into small pieces in three successive steps without changing any knives.
- The knives at the end of cutting stroke come to a stop in a horizontal position (Fig.22),as they touch a wooden end stop fitted between the two angles part7,shown in dotted lines just below the knife and handle joint, connected by bolts part 2. I did not number this part due to

over sight. This end stop prevents the knife edges from touching any other part, thus protecting them from damage.

- Considering the distance between the fulcrum and vegetables of 60 mm and the overall length of the knife and handle of 300 mm, the device achieves a mechanical advantage of 5, which is good for the cutting and is distinctive.
- The size of the cut pieces can be changed, a) by changing the thickness of the guides part 6 b) by keeping the knife handles independent (normally center 2 knives are paired and the outer 4 are connected) and using alternate knives together for increasing the cut piece size.

I have given above many distinctive features of my invention, to establish it's eligibility for a patent and to counter the view that my device is similar to US 4,383,365 given to Metzigian.

Now I will furnish my comments on all the other devices cited in form PTO-892. This may be necessary to establish that I have a new invention and not the same as the Prior art.

A. US-1,183, 472. Lewandowski. Vegetable slicer.

The device is wholly made of metal.

- The knives are mounted on an independent frame.
- Mechanical advantage is low as handle is short and knife is long.
- Vegetables will slide on the base, part 16 is not sufficient to hold them.
- There is no guiding for the knives till the cut is over. Knives will bend sideways.

In all the above areas my device is different as explained in previous paragraphs.

B. US- 1,614, 282. Cleary , Vegetable and Fruit slicer

There is no provision to hold the vegetables.

- The handle is short, low mechanical advantage.
- The knives do not fully clear the vegetable at the end of the cut. Cut pieces will remain stuck between knives.
- Knives are fitted in a separate frame using complicated means.
- There are no guides to restrain the knives during the cut.

In all these aspects my invention has solutions.

C. US- D 85,385. Lowitz, Vegetable Slicer

It is a design patent. Difficult to compare to utility patent.

The vegetable support is depression type. Cannot support straight vegetables.

- The handle is short .Results in low mechanical advantage.

No guiding of the knives above the support, resulting in side bending.

My invention does better in all above aspects.

D. US- 1,910,380. Daum. Food Slicer

This device is specially designed for soft vegetables like Tomatoes. The two devices should not be compared as the end use, which dictates the design, is different.

E. US- 3,076,461, Meek et al Microdermatome.

This patent has been included by oversight. The device is meant for skin grafting.

F. US- 3,145,743. Cronheim Hard boiled egg cutter.

The device is not comparable to my invention as it is meant for boiled eggs and not vegetables. The cutting members are wires and not knives and the support is meant for eggs and not vegetables.

G. US- 3,231,973. Veskrma. Selective multiple action slicer

It is an assembly of knives on two horizontal end supports which are held in place by a central main knife part 1.

- There is no slotted support for vegetables or lever action.
- The knives will not clear the vegetables after cutting. Removing cut pieces will be messy.

My invention has solved the above problems.

H US- 4,137,807. Schaumberg. Manual slicer and dicer.

The knives are in a separate frame. Large vegetables likely to touch the frame during cutting.

- No support for the knives above pegs to minimize bending.
- There is no edge for the knife. Square edges make rough cuts and increase loads.
- Vegetable sliding due to inclined action during cut is not prevented.

The above problems are not there in my invention.

I. US- 4,383,365. Metzigian. Egg slicer with interchangeable components.

The features of this invention and how my invention is different is discussed earlier on page 2 in great detail. I may be allowed to say the inventions are not comparable.

J US- 5,950,515. Wetzel. Apparatus for slicing vegetables.

The invention is not comparable to mine. This invention is a motorized device running at high speeds for large scale processing of Potato and other similar vegetables.

K. US- 6,052,910. Kaebisch Jr. Vegetable cutting device

The device is meant for cutting leafy vegetables only. It is not comparable to my invention.

The structures are very different.

L. US- 6,148,704. Lewis, Catharine. Vegetable cutting device.

There are 18 cutting members in the frame. It will be unwieldy during cutting.

- The handle is too short to give any good mechanical advantage.
- There is no slotted support. Knives will not clear the vegetables after cutting. Cut piece removal will be problem.
- There are no guides for the knife during the cut. Knife bending will be a problem.

All these problems are not existing in my invention.

M US- D 464,851. Dorian, Christopher. Egg slicer.

It is a design patent for an egg slicer. It is not comparable to my invention which is designed to cut vegetables.

I have responded to all the points raised in the office action letter dated May 23rd, in the preceding pages. I hope I have met all the requirements to establish my claims. In case of any further clarifications, I may be contacted by phone (Number at the top of this letter). Alternately, if you send me a message by e-mail, asking me to telephone you (you need not mention any confidential matters on the e-mail) I will do so at the earliest. My e-mail ID<baddepudi@rediffmail.com>.

I amended the inclined cutting action device B with figure nos.22,23, as mentioned earlier in February 2003 (my letter was dated January 30th2003).

I am now proposing amendments to other modes of device B and device D of the specification.

I am writing a separate letter on this subject.

I am enclosing copies of device B amendment sent in February 2003, for ready reference.

Sincerely,

(B.Gopinath.)

Enclosure : Copy of substitute specification of device B sent in February 2003.